



## MEETING INFORMATION

Radisson Summit Hill Hotel  
401 Summit Hill Drive  
Knoxville, TN 37902

Necessary and Sufficient: Doing the Right Thing

Safety Analysis in a World of Limited Resources

On behalf of the Safety Analysis Working Group of the Energy Facility Contractors Group (EFCOG), Lockheed Martin Energy Systems and the Oak Ridge National Laboratory are pleased to host the Sixth Annual Safety Analysis Workshop, June 6-7, 1996. The workshop will emphasize the efficient and economical application of safety analysis to preserve and enhance the safety of DOE operations across the complex. In a world of limited resources, safety analyses must mesh effectively with the necessary and sufficient approach to risk management. The workshop will provide opportunities to share practical lessons learned, successes, failures, and ideas for "doing the right thing" through safety analysis.

The workshop returns to East Tennessee as the sixth in a series which has been held annually since the original meeting in Oak Ridge in 1991. The workshops have established an EFCOG tradition as a cost-effective forum for members of the DOE and contractor safety analysis community to share practical information and make key contacts. Two and one-half days of plenary and concurrent sessions will feature topics of general and technical interest as shown in the enclosed schedule. Opportunities will be provided prior to the workshop for technical Safety Analysis Working Group (SAWG) subgroups to meet and for training to be presented. Exhibitors are invited to display their services during the workshop. Approximately 150-200 DOE and contractor representatives are expected to attend.

## REGISTRATION

The enclosed Workshop Registration Form must be completed and returned by all attendees, including presenters and exhibitors. Attendance is open regardless of EFCOG membership. Activity fees are \$150 for current EFCOG member employees and \$500 (or \$200/day) for non-members.

To verify company EFCOG membership, pending membership, or for additional information about EFCOG, please contact Nellie Chalmers, EFCOG Support Contractor, at (770) 955-5160, fax (770) 955-2331, or E-mail: [efcog1@aol.com](mailto:efcog1@aol.com). Workshop fees include all workshop administrative costs, workshop materials, continental breakfasts and snacks, training, and the technical tour.

In order to ensure your participation at the workshop, the enclosed Workshop Registration Form and activity fee must be received by May 17, 1996. An additional late fee of \$50 must accompany any registrations received after May 17, 1996. [Note: The Training Registration Form must be returned by 4/15/96.]

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We cannot accommodate credit cards or purchase orders for fees. A refund (less \$25) will be granted upon written request to the registration coordinator. Requests for refunds must be received by May 17, 1996. No refunds will be granted after May 17, 1996.

The workshop registration desk, located in the Radisson Summit Hill lobby, will be available to participants Monday, June 3rd, 7:00 AM-12:00 Noon, Tuesday, 7:00 AM-7:00 PM, and Wednesday, 7:00 AM-12:00 Noon. Onsite activity and late fees will be accepted at the registration desk.

#### LOCATION/ACCOMMODATIONS

The workshop will be held in Knoxville, Tennessee at the Radisson Summit Hill Hotel which is located downtown within easy walking distance of restaurants and shops. (See directions below.) A block of rooms has been reserved for workshop participants at the Radisson Summit Hill for arrival June 2 through June 6, 1996. The lodging rate for workshop participants is \$75 for single occupancy; \$85 for double occupancy. The city room tax is 5%; state room tax is 8.25%. (Note that reimbursement up to 150% of the usual per diem allowance for lodging may generally be obtained with advance approval where the lodging is at the same location as the meeting.) All reservations must be guaranteed by major credit card or advance deposit of first night room and tax. The number for reservations is (423)522-2600. Please ask for the block of rooms reserved for the group name "EFCOG Sixth Annual Safety Analysis Workshop." The cut-off date for reservations is May 17, 1996. Any reservations made after this date will be on a space available basis only.

#### TRANSPORTATION

Delta Air Lines is offering the following special discounted fares for this workshop:

10% discount off regular coach fares

5% discount off already discounted fares.

Some restrictions will apply and seats are limited. To obtain these special fares, call 1(800) 241-6760 between 8:00AM and 11:00AM daily and refer to file number 5355 A.

Limousine service is available from McGhee Tyson Airport to the Radisson by Airport Shuttle Express. The one-way fare is \$12; round trip is \$22. The shuttle booth is located at the airport on the lower level in the baggage claim area.

Directions from Airport to Radisson Summit Hill: North from McGhee-Tyson Airport into Knoxville on Highway 129 (Alcoa Highway); cross the Tennessee River; east on I-40/I-75; exit on Henley Street (Highway 441); right (south) on Henley Street one block to Summit Hill Drive; left on Summit Hill Drive; Radisson is on left across from the TVA towers. Parking should be free to guests.

#### RECEPTION

A pre-workshop reception will be held Tuesday evening, June 4th, at the Radisson Summit Hill. A beverage (soft drinks, beer, and wine) and light hors d'oeuvres will be provided at no cost to workshop participants. A cash bar will also be available. If you (and a guest) plan to attend the reception, please indicate on the registration form.

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## SOCIAL EVENT

A dinner entertainment cruise on the Tennessee River aboard the Star of Knoxville has been arranged for workshop participants and guests on Wednesday evening, June 5th. The cost of a ticket is \$30 and includes round-trip ground transportation from the Radisson Summit Hill, the two-hour cruise, and a delicious buffet dinner. Music will be provided along with plenty of opportunity to stroll the decks of the authentic, Mississippi-style paddlewheeler and enjoy fellowship with other workshop participants. Please indicate on the registration form your desire to purchase a cruise ticket.

## GUEST DAY TRIP

If sufficient interest exists, arrangements will be made to provide transportation for guests to travel to Pigeon Forge and/or Gatlinburg, Tennessee for a day of shopping and/or sight-seeing. Please indicate on the registration form of your interest and preferences.

## HOSPITALITY

Refreshments will be provided during mid-morning and mid-afternoon breaks for workshop registrants throughout the week. A continental breakfast will be served before the opening sessions on Wednesday, Thursday, and Friday.

## MESSAGES

A message center will be maintained at the Workshop Registration Desk. Anyone needing to reach a participant during the workshop may call (423) 522-2600 and ask for the EFCOG workshop registration desk.

## SPECIAL NEEDS

Every effort will be made to accommodate participant's special needs. If assistance is required, please contact Sandra Fraker, Registration Coordinator, at (423) 574-6511.

## TRAINING

An important activity offered in conjunction with the workshop again this year is the opportunity to participate in a variety of training modules at no additional cost to workshop participants. These will be featured on Monday and Tuesday, June 3-4, prior to the formal workshop opening on Wednesday. The training activities offered at last year's workshop in Augusta were very well received. The activities planned for this year build on them as well as offering new topics as shown on the Training Registration Form and course descriptions.

To ensure your place in the training activities of your choice, please return the enclosed separate Training Registration Form by April 15, 1996. Training offerings are subject to change depending on the response received by this date.

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## SUBGROUP MEETINGS

Another important activity related to the workshop is the opportunity for technical subgroups to meet on Tuesday afternoon, June 4th. Technical subgroups are the lifeblood of the Safety Analysis Working Group and are where thereal savings through sharing take place. You are encouraged to attend the subgroup of your choice. Meeting times as tentatively projected by the subgroup chairs are indicated below. Contact the subgroup chairs for further, final information.

### SAWG Subgroup Meetings June 1996

Subgroup	Chairperson / Phone No.	Date	Time
Non-Radiological Hazardous Material	Dr. Douglas Craig (803) 952-6718	June 4	1 PM - 5 PM
Environmental Restoration and Decontamination & Decommissioning	Jerry L. Hansen (803) 952-6624	June 4	1 PM - 5 PM
Computer Codes	Tony Savino (509) 376-8191	No Mtg.	
Unreviewed Safety Question Determination	Bob Edwards (803) 952-6736	No Mtg.	
Release Fractions	John VanKeuren (509) 376-2920	No Mtg.	
Technical Safety Requirements	Jim McCormick (803) 952-6625	June 4	8 AM - 5 PM
Training	Mickie Crowley (423) 574-6495	June 4	PM
Process Safety Management	Dr. Saleem Salaymeh (803) 952-6816	June 4	1 PM - 5 PM
Human Factors Safety Analysis	Herbert C. Benhardt (803) 952-6727	June 4	PM
Emergency Preparedness	Jim W. Lightner (803) 952-6709	TBD	
Independent Safety Review & Oversight	A. J. Boegel (510) 422-7112	June 4	AM
Waste Drum Fire Issues	Allen Coutts (803) 952-8210	TBD	

## TECHNICAL TOUR

A tour of Oak Ridge facilities will be offered free of charge on Tuesday afternoon, June 4th. The tour will depart from the Radisson Summit Hill at 1:00 PM and return about 5:30 PM. The tour's first stop will be at the Museum of Science and Energy where an overview of the facilities and their missions

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will be provided. A driving tour of the three main plants (Y-12, K-25, and ORNL) will follow with a stop at the Oak Ridge Graphite Reactor, a National Historic Landmark. Participation will be limited to the first 40 individuals who register. Additional tour registration information, requested to meet security requirements, must be completed in full and received no later than May 3, 1996 for non-US citizens and May 17, 1996 for US citizens. [Note: The following items are prohibited for tour participants at the DOE Oak Ridge facilities: Cameras (both still and movie); audio and video recorders; radio transmitters; firearms; ammunition, and weapons; explosives; flammables and chemicals; and intoxicants and illegal drugs.]

## TECHNICAL PROGRAM

The technical program will consist of an opening plenary session on Wednesday morning, June 5th, three concurrent sessions of technical presentations on Wednesday afternoon and all day Thursday, June 6th, and a closing plenary session featuring a DOE panel discussion on Friday morning, June 7th. See the enclosed schedule for details.

## KEYNOTE SPEAKER

Howard M. Wilchins, Esq. will present the keynote address at the opening plenary session. Mr. Wilchins serves as the Counsel to the DOE Price Anderson Amendments Act Enforcement Group (EH-3).

## EXHIBITORS

Companies providing technical support services related to safety analysis activities for DOE facilities are invited to display information about their capabilities. All company employees staffing the displays must register for the workshop. Contact Joe Little (see below) to receive an exhibit information packet and registration form.

## WORKSHOP COORDINATORS

Your workshop has been planned by the following Lockheed Martin/DOE team. Feel free to contact them for more information about any aspect of the workshop.

	Phone (423)	Fax (423)	E-mail
David Renfro, Workshop Chair	574-6519	574-6722	renfrodg@ornl.gov
Mickie Crowley, Technical Presentations	574-6495	574-6722	crowleywk@ornl.gov
Sandra Fraker, Registration	574-6511	574-6722	frakerse@ornl.gov
Joe Little, Exhibitors	574-8110	576-8184	littlejpjr@ornl.gov
Bobby Williams, Technical Tour	576-8791	576-4705	williamsbk1@ornl.gov
John Hoffmeister, Subgroups	574-0261	576-8184	hoffmeisterja@ornl.gov
Robert Just, Training	574-6497	576-4705	justra@ornl.gov
Terry Olberding, DOE Panel	576-2550	576-5697	olberdingtb@oro.doe.gov
David Sheffey, Keynote Speaker	576-8499	241-6638	sheffeydw@ornl.gov
Norma Cardwell, Logistics	574-5979	574-5738	cardwellnf@ornl.gov

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## TECHNICAL PROGRAM Wednesday Morning

### Opening Plenary Session

Welcome / Logistics  
 Welcome / Challenge  
 SAWG Chairman's Comments  
 The Price-Anderson Compliance Program - a Status Report  
 N&S and Safety Analysis: Complementary or Conflicting?  
 News from the Nuclear Facility Management Working Group  
 Status of the DOE Accident Phenomenology and Consequence Evaluation Project

D. G. Renfro	LMES
R. I. Van Hook	LMER
A. O. Bendure	SNL
H. M. Wilchins	DOE
C. K. Edwards	DOE
W. R. Spezialetti	WSRC
L. F. Restrepo	SNL

## Wednesday Afternoon

### Safety/Authorization Basis - I

Seismic Evaluation for LLNL's Plutonium Facility  
 Qualitative and Quantitative Assessment of Passive Safety Systems  
 Application of Uniform Hazard and Accident Analysis Process for Reactor and Non-Reactor Facilities in Sandia's Tech Area-V  
 Safety Management for Environmental Restoration Projects  
 Aircraft Accident Analysis for Emergency Planning and Safety Analysis  
 Accelerator Production of Tritium Authorization Basis Strategy

Carol Sutcliffe, Chair

Y. Chang	LLNL
S. D. Spray	SNL
K. R. Boldt	SNL
I. Spickler	DOE
S. L. Nicolosi	TENERA
L. A. Miller	SNL

### Consequence Analysis

Calculations of Protective Action Distance for Toxic Chemical Spills Using Nomographs  
 A Model for Mixing Volume Effects on the Consequence Analysis Source Term  
 HFIR Dose Consequence Emergency Response Risk Management  
 Estimating the Consequences of Worker Exposure to Tritium Gas and Tritiated Water  
 Application of Facility Fire Ground Contamination Model to Sodium Fires and Toxic Releases  
 Modeling of Hazardous Material Releases from Planned Explosions at LLNL's Site 300 Explosive Test Site

Kevin R. O'Kula, Chair

L. G. Lee	LMIT
W. A. Hartman	LMES
R. E. Hale	LMER
M. W. Roberts	JBF
D. A. Himes	WHC
D. E. Price	LLNL

### Hazard Analysis

Identification of Dominant Chemical Risks at DOE-EM Mixed Waste Storage Facilities  
 Process Hazards Analyses of the Gaseous Diffusion Plants  
 Getting to Necessary and Sufficient - Developing Accident Scenarios for Risk Assessment  
 Hazard Category Determination for Depleted Uranium Oxide Storage Facilities at SRS  
 Savannah River Site Hazard Analysis Methodology with an Application  
 Hazard and Risk Analysis for Selecting Safety Standards: Experience from the Necessary and Sufficient Pilot Demonstration at Lawrence Livermore National Laboratory

Saleem R. Salaymeh, Chair

J. H. Saloio	SNL
C. Mitchell	JBF
J. A. Mahn	SNL
J. C. Williams	WSRC
G. L. Hovis	WSRC
J. Sims	LLNL

## Thursday Morning

### Safety/Authorization Basis - II

LLNL Plutonium Facility - Lessons Learned from Developing and Implementing the SAR/TSR  
 BIOs for the 9201-5 and 9201-5N/5W Facilities at the Oak Ridge Y-12 Plant  
 Lessons Learned in Performing Updates of a 5480.22/23 Authorization Basis  
 Safety Analysis Elements for a Laboratory Facility  
 Toxic Substances Control Act Incinerator Auditable Safety Analysis  
 Generic Safety Analysis Report as it Relates to DOE-STD-3009-94

W. K. (Mickie) Crowley, Chair

H. Woo	LLNL
V. Guthrie	JBF
T. A. Tomberlin	LMIT
T. Henry	VECTRA-GSI
D. R. Moser	LMES
R. L. Boyd	WSRC

### Risk Assessment

Simplified Risk Model for Waste Management and Environmental Restoration Activities  
 Risk Based Safety Classification of Systems, Structures, and Components  
 Integration of Human Performance in the Hazard and Accident Analysis Process  
 Using Risk-based Graded Approaches within the DOE Environment - Status and Discussion of ASME Research  
 Estimating the Frequency of Post-Earthquake Fires  
 Safety Evaluation of Plutonium Storage Alternatives at Rocky Flats Environmental Technology Site

James A. McCormick, Chair

S. Eide	LMIT
M. R. Greutman	M. H. CHEW
T. G. Ryan	LMIT
W. A. Brinsfield	TENERA
G. R. Baldwin	WSRC
J. H. Phillips	TENERA

### Integrated Safety Analysis - I

Risk Performance Metrics and Measures for the Hanford Cleanup Mission  
 Solid Waste Burial Grounds Exposed Inventory Controls  
 FHA and SAR Relationship  
 Total Safety Basis Outfitting of a DOE-EM Hazard Category 3 Nuclear Facility - - Cost and Schedule Information

Michael L. Cowen, Chair

D. J. Strom	PNL
R. R. Ames	WHC
W. W. Olson	WHC
J. H. Saloio	SNL

Safety Documentation Integrated Work Process (SDIWP)  
Waste Storage Facility Safety Documentation

J. W. Lightner  
J. A. Hoffmeister  
WSRC  
LMES

## Thursday Afternoon

### Integrated Safety Analysis - II

Jerry L. Hansen, Chair

Process Hazard Analysis for the Pit 9 Comprehensive Demonstration Project  
Integrated Environmental, Health and Safety Management: The Outcome of the "Necessary and Sufficient Process"  
A Cost Effective Means to Meet the Requirements of EPA's Risk Management Program Initiative to Assist Small and Medium Enterprises in Improving Safety Management Programs  
Implementing EPA Risk Management Programs -- Integrating Compliance with DOE Safety Analysis Activities  
A Comparative Review of Accident Studies from Recent Environmental Impact Statements

J. A. Farquharson JBF

A. O. Bendure  
D. W. Heal  
D. W. Heal  
SNL  
WSRC  
WSRC

J. S. Arendt  
C. Mueller  
JBF  
ANL

### Necessary and Sufficient Approach to Compliance

Jack Zimmer, Chair

A New Approach to Authorization Basis and Standards Identification for Aging-Facility Limited-Life Cleanup Activities  
Non-Nuclear Facility Safety Documentation  
Necessary and Sufficient Safety Documentation for ER and D&D Activities  
Functional Classification Lessons Learned  
Development of Necessary and Sufficient Safety Documentation for Low Risk Projects in Environmental Restoration  
Application of the Necessary and Sufficient Approach for Lawrence Livermore National Laboratory's Site 300

J. R. Majestic  
M. J. Vigil  
J. L. Hansen  
G. R. Bruschi  
RFETS  
M. H. Chew  
WSRC  
WSRC

J. A. Booth  
EG&G Mound

J. E. Neuman  
LLNL

### Software and Databases

Albert O. Bendure, Chair

Description of the Major Dispersion and Transport Modeling Features of MARCUS  
MACCS2 Development Efforts and BETA Test Results  
A Dose Screening Tool for Consequence Analysis Thought the Integrated Work Process:  
A Necessary and Sufficient Approach to Risk Management at the Savannah River Site  
Implementation of the Single Container Inventory Limit Method for Hazardous Waste Chemicals at the Lawrence Livermore National Laboratory  
Plant Safety Operational Analysis Software  
Integrated Safety, Environmental, & Emergency Management System (ISEEMS)  
Multimedia On-Line Document Emulation Linking (MODEL) System -- Tying Together Technological Loose Ends  
Standardized Radiological Dose Evaluations  
Comparative Evaluation of Two Chemical Dispersion Codes: ISCST-3 and ALOHA  
DOE Accident Phenomenology and Consequence (APAC) Fire Analysis Working Group Evaluation  
Preliminary Results of the APAC Spills Working Group  
DOE Accident Phenomenology & Consequence Methodology Review: Radiological Dispersion/Consequence Codes

L. F. Restrepo  
M. Young  
SNL  
SNL

K. R. O'Kula  
WSRC

J. E. Neuman  
D. A. Walker  
S. Coffing  
LLNL  
LMES  
SNL

J. C. Hudson  
V. L. Peterson  
J. C. Huang  
WSRC  
RFETS  
WSRC

L. F. Restrepo  
S. Brereton  
SNL  
LLNL

K. R. O'Kula  
WSRC

## Friday Morning

### Closing Plenary Session

Chairman's Remarks  
DOE Panel Remarks  
DOE Panel Questions and Answers

A. O. Bendure  
SNL

NOTE: Order of presentations has not been determined by session chairs.

SIXTH ANNUAL SAFETY ANALYSIS WORKSHOP  
JUNE 3-7, 1996  
RADISSON SUMMIT HILL HOTEL, KNOXVILLE, TENNESSEE  
**WORKSHOP REGISTRATION FORM**

Name				
	Last	First	Middle Initial	
Affiliation	Company Name			
	Street			
	City	State	Country	Zip
	Phone			
	FAX		E-Mail	

**REQUIRED BY U.S. DEPARTMENT OF ENERGY FOR TECHNICAL TOUR**

Citizenship: \_\_\_\_\_ Social Security No.: \_\_\_\_\_

ACTIVITY FEE (ALL FEES ARE U.S. DOLLARS)					
Registration	Member, Assoc. Member, or DOE	\$150	<div style="display: inline-block; width: 40px; height: 20px; border: 1px solid black; margin-right: 5px;"></div>		_____
	Non Member (week)	\$500	<div style="display: inline-block; width: 40px; height: 20px; border: 1px solid black; margin-right: 5px;"></div>		_____
			1 DAY	2 DAY	
	Non Member (day)	\$200	<div style="display: inline-block; width: 40px; height: 20px; border: 1px solid black; margin-right: 5px;"></div> <div style="display: inline-block; width: 40px; height: 20px; border: 1px solid black;"></div>		_____
Late Registration Fee (after May 17, 1996)		\$50	<div style="display: inline-block; width: 40px; height: 20px; border: 1px solid black; margin-right: 5px;"></div>		_____
Opening Reception		NC	<div style="display: inline-block; width: 40px; height: 20px; border: 1px solid black; margin-right: 5px;"></div>		_____
Opening Reception (Guest)		NC	<div style="display: inline-block; width: 40px; height: 20px; border: 1px solid black; margin-right: 5px;"></div>		_____
Dinner Cruise		\$30	<div style="display: inline-block; width: 40px; height: 20px; border: 1px solid black; margin-right: 5px;"></div>		_____
Dinner Cruise (Guest)		\$30	<div style="display: inline-block; width: 40px; height: 20px; border: 1px solid black; margin-right: 5px;"></div>		_____
Oak Ridge Technical Tour		NC	<div style="display: inline-block; width: 40px; height: 20px; border: 1px solid black; margin-right: 5px;"></div>		_____
Guest Day Trip		TBD	<div style="display: inline-block; width: 40px; height: 20px; border: 1px solid black; margin-right: 5px;"></div>		_____
Guest Preferences:					_____
Shopping ____ Sight-seeing ____ Both ____					_____
<b>Total:</b>					_____

**RETURN REGISTRATION FORM BY MAY 17, 1996\* TO**

LOCKHEED MARTIN ENERGY SYSTEMS, INC.  
ATTN: MS. SANDRA FRAKER  
P. O. BOX 2008  
BUILDING 1000, MAIL STOP 6333  
OAK RIDGE, TENNESSEE 37831-6333

MAKE CHECK PAYABLE TO: EFCOG WORKSHOP

(U.S. MONEY ORDERS OR CHECKS DRAWN ON U.S. BANKS ONLY; CREDIT CARDS WILL NOT BE ACCEPTED.) \*(BY MAY 3, 1996 FOR NON-US CITIZENS GOING ON TECHNICAL TOUR)



# TRAINING REGISTRATION FORM

Return this Training Registration Form by April 15, 1996 to:

Lockheed Martin Energy Systems, Inc.  
Attn: Ms. Sandra Fraker  
Building 1000, Mail Stop 6333  
Oak Ridge, TN 37831-6333

In conjunction with the Sixth Annual Safety Analysis Workshop, training will be held on June 3-4. Training topics will include 2 and 4 hour training sessions as shown below. Please indicate your interest by placing a "1" (highest priority), "2", etc. in the space provided for each session considering both 2 and 4 hour sessions together.

Training Sessions 2 Hour	Monday Afternoon <sup>1</sup>	Tuesday Morning	Any Session <sup>2</sup>
Internal Review of Safety Documents			
PAAA and the Importance of the SAR Rule			
Safety Analysis Directives Update			
Necessary & Sufficient			
TSR Lessons Learned	N/A		
USQ Lessons Learned/Tips	N/A		

<sup>1</sup>These training sessions on Monday afternoon (Necessary and Sufficient, Safety Analysis Directives Update, PAAA and the Importance of the SAR Rule, and Internal Review of Safety Documents) will be offered only if there is sufficient demand. It is requested that individuals try to schedule these courses Tuesday morning.

<sup>2</sup>Please indicate any session if you can attend either session.

Training Sessions 4 hour	Monday Morning	Monday Afternoon	Tuesday Morning	Any* Session
Qualitative Methods for Assessing Risk	N/A			
TSR Training			N/A	
USQ Process Training			N/A	

\* Please indicate any session if you can attend either session.

Name			
Last		First	Middle Initial
Affiliation			
Company Name			
Street			
City	State	Country	Zip
Phone			
FAX		E-Mail	

## TRAINING COURSE DESCRIPTIONS

### Internal Review of Safety Documents ( 2 hr)

Dr. Vencil S. O'Block, 803-952-9911, vencil.oblock@srs.gov, (Environment, Safety, Health, and Quality Assurance Division, Westinghouse Savannah River Company) will discuss review techniques, experience and training of reviewers, and the identification of technical weaknesses discovered during the review of safety documents. For more than 6 years, the ESH&QA Division conducted the independent review of all major safety documents, e.g., OSRs, SARs, BIOs, etc. for the many nuclear facilities. The experience gained from these reviews will be discussed.

### Necessary and Sufficient ( 2 hr)

Earl Carnes, 301-903-5255, earl.carnes@hq.doe.gov, (DOE EH-31) and Dennis Parzyck (Argonne National Laboratory) will present an overview of the Department of Energy's newly approved Necessary and Sufficient process for developing Environment, Safety, and Health sets of Standards.

### PAAA and the Importance of the SAR Rule (2 hr)

David Sheffey, 423-576-8499, sheffeydw@ornl.gov, (Lockheed Martin - Oak Ridge) will (1) provide a brief historical background of PAAA and a comparison with the DOE Orders, (2) summarize the procedural rule (820), (3) discuss the QA rule, (4) offer a perspective on the importance of SARs to scope PAAA applicability so as to more clearly define the areas subject to enforcement, and (5) discuss Lockheed Martin approaches to resolution of PAAA indemnification flowdown to subcontractors and the LMES Compliance Assurance Program with special emphasis on the PAAA Senior Review Board.

### Qualitative Methods for Assessing Risk (4 hr)

Jeffrey Mahn, 505-844-9995, jamahn@sandia.gov, (Sandia National Laboratories, Risk Management & NEPA Department) will present a risk assessment methodology developed by Sandia National Laboratories' Risk Management & NEPA Department to provide safety analysts with a tool to facilitate a technically valid and justifiable application of qualitative evaluation criteria for assessing accident risk. It is applicable to any assessment of risk that does not require a precise quantification of analytical uncertainty. The methodology provides a means for performing relatively inexpensive qualitative risk assessments, while retaining the best attributes of more costly quantitative methods.

### Safety Analysis Directives Update (2 hr)

W. K. (Mickie) Crowley, 423-574-6495, crowleywk@ornl.gov, (Lockheed Martin - Oak Ridge) and others from Savannah River, Los Alamos, and Hanford will present an update on recently issued safety analysis directives, the status of draft directives, and application experience with the directives across the DOE complex. If anyone has experiences to share related to new directives application, it is requested that they contact Mickie Crowley electronically at CROWLEYWK@ORNL.GOV.

### TSR Lessons Learned (2 hr)

Jim McCormick, 803-644-5446, james.mccormick@srs.gov, (Westinghouse Savannah River Company) will facilitate an open discussion centered around "lessons learned while writing, reviewing, and implementing Technical Safety Requirements in accordance with, DOE Order 5480.22." This will be primarily an interactive discussion including descriptions of positive and negative examples of "lessons learned" from around the complex. In an effort to de-sensitize negative accountability all discussions will be free from actual site identification as possible. Any contributions to these discussions will be welcomed on a real time basis.

### TSR Training (4 hr)

Jim McCormick (Westinghouse Savannah River Company) will disseminate information for writing and reviewing Technical Safety Requirements in accordance with DOE Order 5480.22, DOE STD 3009-94 and other pertinent DOE requirements. This will be primarily an interactive discussion including question & answer periods that are designed to bring the general DOE requirements and guidance in focus to specific site situations. It is important that the majority of the participants have an understanding of DOE Order 5480.22 and DOE STD 3009-94.

### USQ Lessons Learned/Tips (2hr)

Bob Edwards, 803-952-6736, robert.edwards@srs.gov, (Savannah River), Dan Wilson (Oak Ridge), Jeff Mahn (Sandia), Alan Scruggs (Pantex), and Jim Tingey (LANL) will present a compilation of lessons learned in applying the USQ process at DOE nuclear facilities over the past 5 years and conclude with a question and answer forum with individuals representing several different sites.

### USQ Process Training (4 hr)

Bob Edwards (Westinghouse, Savannah River Company), the Chairman of the EFCOG USQ Subgroup, will discuss the intent, purpose, and requirements of Order 5480.21, Unreviewed Safety Questions, and provide information on how the Order should be applied at DOE nuclear facilities.